Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of the Claims:

1-13 (Canceled)

14. (Previously Presented) A method of upgrading software in a object oriented computing environment, said method comprising:

loading an online upgrade module , said online upgrade module including a first container based software component, an online upgrade listener and an online upgrade specification, wherein said first container based software component is an upgrade of a second container based software component which is capable of operating in said object oriented computing environment;

notifying an online-upgrade controller to initiate an online upgrade process;

performing by the online-upgrade controller a plurality of operations to facilitate online upgrade of said second container based software component to said first container based software component;

wherein said plurality of operations are performed in multiple stages comprising:

an upgrade prepare stage;

a pre-upgrade stage comprising: loading one or more listener classes associated with said online upgrade listener, instantiating said one or more listeners associated with said on-line upgrade listener, and performing one or more callbacks via said on-line upgrade listener;

one or more upgrade operations;

a post-upgrade stage, and

a commit stage which comprises: assuring successful draining of said second container based software component, performing one or more callbacks, unloading said second container based software component; and conveying information about said assuring, performing, or unloading to a management entity.

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15. (Previously Presented) A method as recited in claim 14, wherein said first container based software component, said online upgrade listener, and said online upgrade specification are packaged together as a software package.

16. (Original) A method as recited in claim 15, wherein said online upgrade specification is implemented in a manifest portion of said software package.

17. (Original) A method as recited in claim 15, wherein said first container based software component is an Enterprise Java Bean II software component.

18. (Previously Presented) A method as recited in claim 14, wherein said online upgrade can be performed without interruption of services.

19. (Previously Presented) A method as recited in claim 14, wherein at least one of the first or second container based software components are operable during said software upgrade.

20. (Previously Presented) A method of upgrading container based software components in multiple stages, said method comprising:

    loading a first container based application program, said application program being a new version of a second container based application program;

    performing a callback to determine whether the first application program is ready for service;

    performing a redirect callback to the first application program; and

    conveying information to a management entity about said loading, or said callbacks;

    wherein said multiple stages of upgrading comprises:

        an upgrade prepare stage;

        a pre-upgrade stage;

        one or more upgrade operations; and

        a post-upgrade stage

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21. (Previously Presented) A method as recited in claim 20,

    wherein said method further comprises a commit stage;

    wherein said commit stage includes:

        assuring draining an older version of an application program;

        performing one or more callbacks; and

        unloading said older version of application program; and

        conveying information about said assuring, performing, or unloading to a

management entity.

22. (Original) A method as recited in claim 20, wherein said two or more stages further comprise:

    a rollback stage.

23. (Previously Presented) A method as recited in claim 20, wherein said two or more stages further comprise of at least one of a commit stage and a rollback stage.

24. (Canceled)

25. (Original) A method as recited in claim 21, wherein said upgrade prepare stage comprises:

    conveying information about said loading, instantiation, or performing to a management entity.

26. (Original) A method as recited in claim 25, wherein said management entity is a cluster manager.

27. (Original) A method as recited in claim 20,

    wherein said upgrade pre-upgrade stage comprises performing one or more callbacks;

    wherein said post-upgrade operations comprises one or more callbacks.

28. (Original) A method as recited in claim 27, wherein said method further comprises conveying information to a management entity.

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29. (Original) A method as recited in claim 28, wherein said management entity is a cluster manager.

30. (Canceled)

31. (Previously Presented) A computer system for upgrading software in a object oriented computing environment, wherein said computer system is capable of:

    upgrading software in a object oriented computing environment; said method comprising:

    loading an online upgrade module, said online upgrade module including a first container based software component, an online upgrade listener and an online upgrade specification, wherein said first container based software component is an upgrade of a second container based software component which is capable of operating in said object oriented computing environment;

    notifying an online-upgrade controller to initiate an online upgrade process;

    performing by the online-upgrade controller a plurality of operations to facilitate online upgrade of said second container based software component to said first container based software component;

    wherein said plurality of operations are performed in multiple stages comprising:

        an upgrade prepare stage;

        a pre-upgrade stage comprising: loading one or more listener classes associated with said online upgrade listener, instantiating said one or more listeners associated with said on-line upgrade listener, and performing one or more callbacks via said on-line upgrade listener;

        one or more upgrade operations;

        a post-upgrade stage, and

        a commit stage which comprises: assuring successful draining of said second container based software component, performing one or more callbacks, unloading said second container based software component; and conveying information about said assuring, performing, or unloading to a management entity.

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